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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/806,160

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Hirotsuna Miura

119210

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11/26/2007

OLIFF & BERRIDGE, PLC

P.O. BOX 320850

ALEXANDRIA, VA 22320-4850

EXAMINER

RUTHKOSKY, MARK

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

11/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/806,160	Applicant(s) MIURA ET AL.	
	Examiner Mark Ruthkosky	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) 3-6, 9 and 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) 1, 2, 7 and 8 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>3/22/2007</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

Applicant's election with traverse of claims 1-2 in the reply filed on 9/12/2007 is acknowledged. The traversal is on the ground(s) that the subject matter of all claims is sufficiently related that a thorough search for the subject matter of any one Group of claims would encompass a search for the subject matter of the remaining claims. Thus, it is respectfully submitted that the search and examination of the entire application could be made without serious burden. Applicant cited MPEP §803 in which it is stated that "if the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions." This is not found persuasive because the distinct inventions require distinct search and consideration based on the amendments to each distinct invention. As noted in the first office action on the merits, Applicant's application includes two distinct inventions including a fuel cell and a method of manufacturing a fuel cell. As originally claimed, the two inventions were sufficiently similar to require a single search. However, further limitations were added to define the product including limitations added that are not in the method.

Applicant has not addressed the restriction reasoning applied for each distinct invention and therefore the restriction is held as proper. The method claims, claims 3-6 and 9-10 are withdrawn from consideration.

The requirement is still deemed proper and is therefore made FINAL.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The rejection of claims 1-3, 5 and 7 under 35 U.S.C. 102(e) as being anticipated by Beattie et al. (US 6,667,127) has been overcome by applicant's amendment to the claims.

Claim Rejections - 35 USC § 102/103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-2 and 7-8 are rejected under 35 U.S.C. 102(b) and 102(e) as being anticipated by, or in the alternative under 35 U.S.C. 103(a) as being unpatentable over Yasumoto et al. (WO 02/073721, US 2003/0087145 and US 6,991,870.) For purposes of examination, the elements taught in the reference will be referred to in the US patent.

The instant claims are to a fuel cell comprising a first substrate provided with a gas flow path, to supply a first reaction gas; a first electron collection layer formed on the first substrate; a first reaction layer formed on the first electron collection layer; an electrolyte film formed on the first reaction layer; a second reaction layer formed on the electrolyte film; a second electron collection layer formed on the second reaction layer; and a second substrate provided with a second gas flow path to supply a second reaction gas, at least one of the first electron collection layer and the second electron collection layer constructed in porous form by stacking conductive material particles, the at least one of the first electron collection layer and the second electron collection layer including a plurality of rows, with the conductive material particles in each row separated by gaps, a conductive material particle in one row being in contact with a conductive material particles in an adjacent row.

Yasumoto et al. teaches a fuel cell comprising a first substrate provided with a gas flow path, to supply a first reaction gas; a first electron collection layer formed on the first substrate; a first reaction layer formed on the first electron collection layer; an electrolyte film formed on the first reaction layer; a second reaction layer formed on the electrolyte film; a second electron collection layer formed on the second reaction layer; and a second substrate provided with a second gas flow path to supply a second reaction gas (see figures 4, 10, and 11 and the corresponding text.) At least one of the first electron collection layer and the second electron

collection layer constructed in porous form by stacking conductive material particles. The collection layer includes a plurality of rows, with the conductive material particles in each row separated by gaps. A conductive material particle in one row is in contact with conductive material particles in an adjacent row. The conductive material may be carbon or a metal. In the collection layer, cavities formed mainly between conductive particles function as pores. Smaller conductive particles fall into the pores between larger particles. The area of the pores may be varied by changing the relative proportion of particles (col. 9, lines 1-10 and 35-end.) Figure 10 shows rows of conductive material particles. Some particles in one row are in contact with conductive material particles in an adjacent row. Some particles are separated by gaps. With regard to claims 7-8, fuel cell powered vehicles are known in the art (see col. 1, lines 10-15), as taught in Yasumoto et al. As the reference teaches all of the elements of the claims, the claims are anticipated.

The reference does not teach that all particles are touching, however, as noted; the area of the pores may be varied by changing the relative proportion of particles (col. 9, lines 1-10 and 35-end.) Thus, adding more particles to the mixture will force the particles adjacent to one another to touch. It would have been obvious to one of ordinary skill in the art at the time the invention was made to alter the amount of particles in the conductive layer in order to increase the conductivity or porosity of the layer. By adding more conductive particles, the conductivity of the layer will increase and the porosity will decrease. By adding relatively less conductive particles, the porosity of the layer will increase and the conductivity will decrease. One skilled in the art would add the desired amount of particles in order to achieve the desired result. The

artesian would have found the claimed invention to be obvious in light of the teachings of the references.

Response to Arguments

Applicant's arguments with respect to the claims have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Examiner Correspondence

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mark Ruthkosky whose telephone number is 571-272-1291. The examiner can normally be reached on FLEX schedule (generally, Monday-Thursday from 9:00-6:30.) If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached at 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free.)

Mark Ruthkosky

Primary Patent Examiner

Art Unit 1745

Mark Ruthkosky
11-21-07